TTUHSC JHH SOP's "CAPE PLUS" Terminal Outcomes and Ability Statements Domain1 Foundational knowledge **Domain Learner (Learner)** - Develop, integrate, and apply knowledge from the biomedical sciences to evaluate the scientific literature, explain drug action, Sub-domain 1.1 solve therapeutic problems, and advance population health and patientcentered care. **Biochemistry** - Describe the structure, properties, biological functions, applicable kinetics, and metabolic fate of macromolecules that are essential to life (proteins, 1.1.1 lipids, carbohydrates, and nucleic acids) and critical for understanding the development of adverse drug interactions, endogenous targets for drug therapy, and rational drug design strategies. **Human Anatomy** - Describe the structure of major human body systems at the 1.1.2 cellular, tissue, organ, and system level. Human Physiology - Describe the functions, responses, interactions and 1.1.3 homeostasis of non-diseased human cells, organs, and systems across the lifespan, and their foundation of pathophysiology and pharmacodynamics concepts. **Abilities Immunology** - Recognize human immune system components, innate and adaptive 1.1.4 immune responses to vaccines, allergen, infection, injury, inflammation, medications and disease; and augmentation of the human immune system in disease. Medical Microbiology - Describe the structure, function, and properties of 1.1.5 microorganisms (bacteria, viruses, parasites, and fungi) responsible for human disease, and rational approaches to their containment or eradication. Pathology/Pathophysiology - Recognize the basic principles, parameters and 1.1.6 mechanisms of aberrant functions, clinical presentations, responses and metabolic sequelae of disease**s. Epidemiology -** the cause-and-effect patterns of health and disease in large human 1.1.7 populations. **Learner (Learner)** - Develop, integrate, and apply knowledge from the pharmaceutical sciences to evaluate the scientific literature, explain drug Sub-domain 1.2 action, solve therapeutic problems, and advance population health and patientcentered care. Clinical Chemistry - Apply clinical laboratory data to disease state management, 1.2.1 including screening, diagnosis, progression, and treatment evaluation. Extemporaneous Compounding - Prepare sterile and non-sterile prescriptions which 1.2.2 are pharmaceutically accurate regarding drug product and dose, free from contamination, and appropriately formulated for safe and effective patient use. Medicinal Chemistry - Explain the chemical basis of drug action and behavior in vivo and in vitro, with an emphasis on pharmacophore recognition and the application of 1.2.3 physicochemical properties, structure and activity relationships, intermolecular drug-receptor interactions and metabolism to therapeutic decision-making. Pharmaceutics- Explain the physicochemical properties of drugs, excipients, and 1.2.4 dosage forms important to the rational design and manufacture of sterile and nonsterile products. **Biopharmaceutics** - Apply biotechnology to the rational design of biologic-based 1.2.5 therapies. **Abilities Pharmacogenomics/genetics** - Describe the genetic basis for disease and individual 1.2.6 differences in metabolizing enzymes, transporters, and other biochemicals impacting drug disposition and action that underpin the practice of personalized medicine. **Pharmacology** - Apply drug-induced alterations of the human body for therapeutic decision-making, including pharmacodynamics, efficacy, interactions, and 1.2.7 therapeutic and adverse effects on immediate and lifespan variations in physiology, pathophysiology, and biochemistry. Toxicology - Explain the pharmacodynamics, mechanisms, prevention, and treatment of the toxic effects of drugs and poisons, including poisons associated 1.2.8 with bioterrorism. Drug Development - describe the process by which drugs are developed and brought to market, including drug stability, delivery, release, disposition, 1.2.9 pharmacokinetics, therapeutic effectiveness, and the development of quality standards for drug products that lead to patents, premarket studies, and approval. Learner (Learner) - Develop product (both pharmacologic and nonpharmacologic) knowledge from the <u>clinical sciences</u> to assist in Sub-domain 1.3 the evaluation of scientific literature, explain drug action, solve therapeutic problems, and advance population health and patientcentered care. **Brand and Generic Names** - Identify the brand and generic names of commonly 1.3.1 prescribed medications. **Dosing Strategies** - Determine the most appropriate pediatric and adult dosing strategies including, interval and durations for medications for the common 1.3.2 conditions in which they are indicated. 1.3.3 **Storage Requirements** - Identify important storage requirements of medications. **Abilities** Indications/Contra-indications - Identify appropriate indications and contra-1.3.4 indications General Administration Techniques - Recommend appropriate use of 1.3.5 pharmacologic and non-pharmacologic products. Devices and durable medical equipment - Apply knowledge of devices and durable 1.3.6 medical equipment Mathematics (Calculator) - Utilize pharmaceutical and pharmacokinetics Sub-domain 1.4 mathematics to perform accurate medication calculations. **Pharmaceutical Calculations** - Mastery of mathematical skills required to accurately 1.4.1 prepare prescriptions (including extemporaneously compounded dosage forms) that are therapeutically sound and safe for patient use. Basic Pharmacokinetics - Mathematical determination of the rate of drug movement from one therapeutic or physiologic compartment to another which includes application of physicochemical and kinetic principles and parameters to 1.4.2 **Abilities** therapeutically important issues, such as drug delivery, disposition, therapeutic effectiveness, and beneficial or adverse interactions in general and specific populations. Clinical Pharmacokinetics - Application of basic pharmacokinetic principles and mathematical models to calculate safe and effective doses of drugs for individual 1.4.3 patients, and adjust therapy as appropriate through the monitoring of drug concentration in biological fluids. Domain **Domain 2 Essentials for Practice and Care** Patient-centered care (Caregiver) - Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate Sub-domain 2.1 assessments and recommendations, implement, monitor and adjust plans, and document activities). Collect information to identify a patient's medication related problems and health-2.1.1 related needs. Intepret information to determine disease presentation or the effects of medication 2.1.2 therapy, identify medication-related problems, and prioritize health-related needs. Establish patient-centered goals and create a care plan for a patient in collaboration 2.1.3 with the patient, caregiver(s), and other health professionals that is evidenced-based and cost effective. **Abilities** Implement a care plan in collaboration with the patient, caregivers, and other health 2.1.4 professionals. 2.1.5 Monitors and evaluates the effectiveness of care plans. Accurately documents patient encounters (inclunding but not limited to: Adverse 2.1.6 Drug Event Reporting, Monitoring notes, therapy initiation notes, etc) in patient charts, documentation systems, or other appropriate medium. 2.1.7 Perform appropriate **patient** assessments. Medication use systems management (Manager) - Manage patient healthcare needs using human, financial, technological, and physical resources to optimize Sub-domain 2.2 the safety and efficacy of medication use systems. Compare and contrast the U.S. and Other Countries' health systems and 2.2.1 reimbursement models. 2.2.2 Analyze the root cause of medication errors Describe the role of the pharmacist in applying standards, guidelines, best practices, 2.2.3 and established processes related to safe and effective medication use. 2.2.4 Utilize technology to optimize the medication use system. 2.2.5 Manage healthcare needs of patients during transitions of care. 2.2.6 Utilize continuous quality improvement techniques in the medication use process. **Abilities** Apply sound management principles (including operations, information, resource, 2.2.7 fiscal, and personnel) and quality metrics to advance patient care and service delivery within and between various practice settings. Health Informatics: Implement effective and secure design strategies with use of 2.2.8 electronic and other technology-based systems, including electronic health records, to capture, store, retrieve, and analyze data for use in patient care. 2.2.9 **HIPAA:** Share health information in accordance with all federal policies. 2.2.10 Oversee the pharmacy operations for an assigned work shift. Interpret and fulfill a medication order (including sterile and non-sterile 2.2.11 products) with accurate preparation, labeling, dispensing, and distribution. Health and wellness (Promoter) - Design prevention, intervention, and Sub-domain educational strategies for individuals and communities to manage chronic 2.3 disease and improve health and wellness. Describe systematic preventive care, using risk assessment, risk reduction, screening, 2.3.1 education, and immunizations. Provide prevention, intervention/triage, and educational strategies for individuals 2.3.2 and communities to improve health and wellness. **Abilities** Conduct evidence-based evaluation of the therapeutic value, safety, and regulation 2.3.3 of pharmacologically active natural products and dietary supplements. 2.3.4 Recognize priniciples of self-care including the dimensions of wellness 2.3.5 Provide immunizations to patients against vaccine-preventable diseases. **Population-based care (Provider)** - Describe how **population-based care** Sub-domain 2.4 influences patient centered care and influences the development of practice guidelines and evidence-based best practices. Evaluate how the unique characteristics (social, cultural, religious, economic, and 2.4.1 environmental) of a patient population can contribute to drug-related problems. Identify the needs of a targeted population considering cost, care, access, and 2.4.2 patient satisfaction through an evidenced-based approach. 2.4.3 Differentiate sex and gender considerations in health care. **Abilities** Participate in population health management by evaluating and adjusting 2.4.4 interventions to advance safe and effective drug use and positive care outcomes within the pediatric population. Participate in population health management by evaluating and adjusting 2.4.5 interventions to advance safe and effective drug use and positive care outcomes within the geriatric population. **Laws and Regulations (Rule-Follower)** - In all health care activities, recognize 2.5 Sub-domain and comply with all federal, state, and local laws and regulations related to pharmacy practice medication distribution, use, and management systems. Comply with federal, state, and local laws and regulations related to non-dispensing 2.5.1 and dispensing (excluding controlled substances) functions associated within all scopes of pharmacy practice. Practice according to the rules and legal requirements for dispensing, administering, 2.5.2 storing, and ordering controlled substances in all pharmacy practice settings. **Abilities** Comply with federal and appropriate state-specific statutes, regulations, policies, 2.5.3 executive orders, and court decisions that regulate the practice of pharmacy related to the mitigation of prescription drug abuse and diversion. Discuss laws and regulations regarding appropriate handling and disposal of 2.5.4 hazardous and nonhazardous medications. **Drug Information Analysis and Literature Evaluation (Seeker)** - Assess information needs of patients and health providers and apply knowledge of Sub-domain 2.6 study design and literature analysis to provide accurate, evidence-based drug information. 2.6.1 Collect accurate and comprehensive drug information from appropriate sources. Recognize the type of content that is available in general (tertiary), secondary, and 2.6.2 primary information sources. 2.6.3 Generate an effective drug information response. Differentiate among experimental models and methodology employed in clinical 2.6.4 **Abilities** study design Recognize appropriate use of commonly employed statistical tests and management 2.6.5 Critical analysis and application of relevant health sciences literature and other 2.6.6 information resources to answer specific patient-care and/or drug-related questions. **Business Models and Pharmacy Services (Analyzer)** - Evaluate existing Sub-domain 2.7 business models associated with pharmacy practice and design strategise for development of new pharmacy services to meet healthcare needs. 2.7.1 Utilize basic business principles within the framework of practice management Evaluate pharmacy services and business models for effectiveness, appropriatenes, 2.7.2 **History of Pharmacy:** Explore the evolution of pharmacy as a distinct profession, the transition from a focus on the drug to a focus on the patient and the drug (including **Abilities** 2.7.3 pharmacist-provided patient care), and major milestones and contributors in the evolution of pharmacy. **Pharmaco-economics:** Apply economic principles and theories to the provision of 2.7.4 cost-effective pharmacy products and services that optimize patient-care outcomes, particularly in situations where healthcare resources are limited. **Domain** Domain 3 Approach to Practice and Care **Problem Solving (Problem Solver)** - Identify problems; explore and prioritize Sub-domain 3.1 potential strategies; and design, implement, and evaluate a viable solution. 3.1.1 Identify and define the primary problem. **Abilities** Demonstrate scientific inquiry by developing, organizing, prioritizing, and defending 3.1.2 multiple possible solutions. **Educator (Educator)** – Educate all audiences by determining the most effective Sub-domain 3.2 and enduring ways to impart information and assess understanding. Educate patients/informal caregivers by determining the most effective and 3.2.1 enduring ways to impart information and assess understanding. **Abilities** Educate peer health professionals by determining the most effective and enduring 3.2.2 ways to impart information and assess understanding. **Patient Advocacy (Advocate) -** Assure that patients' best interests are 3.3 Sub-domain 3.3.1 Ascertain and incorporate patients goals into clinical decision making 3.3.2 Assist patients in navigating the complex healthcare system. **Abilities** Ensure patients obtain the resources and care required in an efficient and cost-3.3.3 effective manner (e.g., patient medication assistance programs and triage to social and/or other healthcare services). **Interprofessional collaboration (Collaborator) –** Actively participate and Sub-domain 3.4 Values and Ethics for Interprofessional practice: Work with individuals of other 3.4.1 professions to maintain a climate of mutual respect and shared values Roles and Responsibilities: Use the knowledge of one's own role and those of other 3.4.2 professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations. Interprofessional Communication: Communicate with patients, families, **Abilities** communities, and professionals in health and other fields in a responsive and 3.4.3 responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease. **Teams and Teamwork**: Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate 3.4.4 patient/population-centered care and population health programs and policies that are dafe, timely, efficient, effective, and equitable. Cultural sensitivity (Includer) - Recognize social determinants of health to Sub-domain 3.5 diminish disparities and inequities in access to quality care. Recognize the social determinants of health that affect the access to care and care 3.5.1 outcomes. Assess a patient's health literacy and modify communication strategies to meet the **Abilities** 3.5.2 patient's needs. Cultural Competency: Explain the impact of cultural values, beliefs, and practices on 3.5.3 patient care outcomes. **Communication (Communicator) –** Effectively communicate verbally and Sub-domain 3.6 nonverbally when interacting with an individual, group, or organization. Interview patients using an organized structure and techniques such as motivational 3.6.1 interviewing, active listening, and open/closed-ended questions to gather information Determine the most appropriate communication strategies (verbal, non-verbal, and **Abilities** written) to meet the needs of the individual, group, or organization, including 3.6.2 adaptation of terminology as appropriate for the audience. 3.6.3 Communicate assertively, persuasively, confidently, and clearly. 3.6.4 Demonstrate fluency with language of instruction (grammar, spelling, syntax) Domain <u>Domain 4 Personal and Professional Development</u> **Self-awareness (Self-aware)** – Examine and reflect on personal knowledge, Sub-domain 4.1 skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth. 4.1.1 Utilize resources to participate in self exploration 4.1.2 Perform self assessment/reflection Demonstrate emotional intelligence 4.1.3 **Abilities** 4.1.4 Develop skills to support resilience 4.1.5 Incorporate newly learned abilities into both personal and professional life 4.1.6 Document continuing professional development (CPD) **Leadership (Leader)** - Demonstrate responsibility for creating and achieving Sub-domain 4.2 shared goals, regardless of position. Identify characteristics that reflect leadership versus management. 4.2.1 4.2.2 Demonstrate behaviors that support collaboration and consensus building Demonstrate skills in task/project management, including time management, 4.2.3 **Abilities** organization, and workflow execution 4.2.4 Know principles of change management Know ethical principles in areas such as bioethics, institutional compliance, and 4.2.5 professional integrity **Innovation and Entrepreneurship (Innovator)** - Engage in innovative activities Sub-domain 4.3 by using creative thinking to envision better ways of accomplishing professional Generate new ideas to help improve personal, organization, and/or pharmacy 4.3.1 profession missions. **Abilities** Demonstrate strategic planning skills through creative thinking to transform ideas 4.3.2 into novel strategies 4.3.3 Demonstrate marketing/pursuasive skills to disseminate ideas ( Professionalism (Professional) - Exhibit behaviors and values that are Sub-domain 4.4 consistent with the trust given to the profession by patients, other healthcare providers, and society. Personal Appearance - Maintain personal appearance consistent with the image of 4.4.1 the profession. **Attendance and engagement -** Demonstrate punctuality and consideration for 4.4.2 class, group or work schedules Follow-through on Tasks - Demonstrates follow through with responsibilities and 4.4.3 adjusts work style as needed to achieve milestones. **Appropriate Technology Use -** Demonstrates appropriate use of electronic devices 4.4.4 and social media platforms. **Self-Directed / Accountable -** Demonstrate accountability and self-direction while **Abilities** 4.4.5 undertaking tasks to exceed minimal standards and deadlines. Efficent Use of Time - Demonstrates effective time management skills, including 4.4.6 adequate preparation for all personal and practice-related responsibilities and adherence to deadlines Behaves in Ethical Manner - Exemplifies high ethical standards through honesty, acting in other's best interests, and by holding self and others accountable for 4.4.7 professional conduct. **Demonstrates Empathy** - Demonstrates empathy and an appreciation of the 4.4.8 concerns of others. **Accepts Constructive Feedback -** Utilizes constructive feedback to improve both 4.4.9 efficiency and effectiveness of performance.